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IS 9113 (2012): Textiles - Jute sacking - General requirements [TXD 3: Jute and Jute Products]

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(दूसरा पुनरीक्षण)

Indian Standard

TEXTILES — JUTE SACKING — GENERAL REQUIREMENTS

(Second Revision)

ICS 55.080; 59.060.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

October 2012 **Price Group 5**

Jute and Jute Products Sectional Committee, TXD 03

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.

This standard was first published in 1979 and subsequently revised in 1993. This standard has been revised again in the light of experience gained since its first revision and to incorporate the following major changes:

a) Sampling and criteria for conformity have been modified for fabric and bags;
b) Classified major and minor defects have been incorporated to minimize failures during storage and end use; and
c) Oil content percent has been reduced to 3 percent.

The composition of the Committee responsible for the formulation of this standard is given in Annex F.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — JUTE SACKING — GENERAL REQUIREMENTS

(Second Revision)

1 SCOPE

This standard specifies terminology, general requirements, packing, marking, sampling, inspection and criteria for conformity of jute sacking fabrics and bags.

2 REFERENCES

The standards listed in Annex A contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards given at Annex A.

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 5476 shall apply.

4 FABRIC

4.1 Construction

The fabric shall be of uniform construction when examined visually. The selvedges shall be firm and straight.

4.2 Defects

The fabric and bag shall be free from defects as given in Annex B and Annex C respectively.

4.3 Moisture

The average moisture regain shall not exceed 22 percent and the contract moisture regain shall be 20 percent.

4.4 Oil Content

The oil content on dry deoiled material basis shall not exceed 3 percent.

4.5 Other Requirements

The requirements such as weave, width, number of ends and picks per unit length, mass, warp and weft breaking strength shall be as specified in the relevant Indian Standard or as given in the contractual specification.

5 BAG

5.1 Construction

5.1.1 *Fabric per Bag*

5.1.1.1 *Bag with hemming at the mouth (hemmed bag)*

The full width single piece fabric per bag shall be 76 mm longer than twice the nominal outside length of the bag.

5.1.1.2 *Bag with selvedge at the mouth (selvedge bag)*

The full width single piece fabric per bag shall be 76 mm longer than twice the nominal outside width of the bag.

5.1.2 *Stitching*

The stitching shall be of even tension, with all the loose ends securely fastened or finished in loose chain of minimum 3 cm and free from gap-stitch, loose/frayed ends, etc. Stitching shall be carried out by using jute yarn/twine of the following requirements:

Stitching	*Count of Jute Yarn Twine (for Guidance Only)*	*Length of Yarn/ Twine as Multiple of Sewn Length*
Hemming	310 tex	5
Overhead	Two strands of 380 tex × 3 ply used as one	7
Herakle	Two strands of 310 tex × 3 ply introduced separately one from top and one from bottom	9.5
Union (Safety stitch)	3l0 tex × 2 ply	5

5.1.3 *Hemming*

At the mouth of the bag, the raw edges of fabric shall be turned over first to a depth of minimum 18 mm and then to a depth of 20 mm minimum and the three layers of fabric thus formed shall be hemmed with jute yarns (*see* **5.1.2**).

5.1.4 *Seam*

For a bag with selvedge at the mouth, the side shall be stitched with jute twine (*see* **5.1.2**) after turning the raw edges to a depth of about 38 mm each side using overhead or herakle stitches through layers of the fabric.

For a bag with hemming at the mouth, the sides of the bag shall be sewn with overhead or herakle stitches on selvedge through two layers of fabric.

A line of safety stitch shall be provided for both overhead and herakle stitch, if so specified in an agreement between the buyer and the seller, at the inner edges of the overhead or herakle stitches.

5.1.5 *Joined Bag*

The seam used to join the two pieces in a joined bag shall have strength not less than the breaking strength of the seam as specified in the relevant Indian Standard and the same shall be sufficiently tight to prevent sifting or leakage of the content of the bag. The joining shall be done in such a manner that warp and weft shall run in the same direction.

5.2 Nominal Mass of Bag

The nominal mass of bag shall be calculated on the following basis:

$$\text{Nominal mass of bag} = A_t \times M_t + M_s$$

where

A_t = area of fabric per bag, in m^2 (*see* **5.1.1**);

M_t = mass of basic fabric as given in the relevant Indian Standard or as specified in the contract or order, in g/m^2 ; and

M_s = mass of sewing twine and hemming yarn, in g (*see* **5.1.2**).

5.3 Moisture

The permissible average moisture regain and the contract moisture regain shall be same as given in **4.3**.

5.4 Oil Content

The oil content on dry deoiled material basis shall not exceed 3 percent.

5.5 Other Requirements

The other requirements such as weave, dimensions, number of ends and picks per unit length, mass, warp and weft breaking strength, seam (warp and/or weft) breaking strength shall be as given in the relevant Indian Standard or in the contractual specification.

6 PACKING AND MARKING

6.1 Unless otherwise specified in the contract or order, the sacking fabric and bag shall be packed and marked as specified in IS 2873.

6.2 BIS Certification Marking

The bales containing sacking fabric/bag may also be marked with the Standard Mark.

6.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 SAMPLING

Unless otherwise agreed to between the buyer and the seller, the procedure for sampling of fabric as given in Annex D and the procedure for sampling of bags and criteria for conformity as given in Annex E shall be followed.

8 TESTING AND INSPECTION

8.1 Mass of Bales

Determine the total gross mass (M_g) of the bales under test by adding the gross mass of each bale corrected to the nearest kilogram. Remove the baling hoops and all other packing materials of the bales and weigh them together up to the nearest kilogram (M_t).

The total net mass of bales under test $M_n = M_g – M_{t.}$ Determine the total corrected net mass (M) of bales under test by the following formula:

$$M = \frac{M_n \times (100 + \text{Contract moisture regain, percent})}{100 + \text{Average moisture regain, percent of bales}}$$

8.2 Moisture Regain

Determine the moisture regain of each cut/bag on opening the bales by the use of a suitable moisture meter. After opening the bales, sufficient time (not less than 10 min) shall be allowed to lapse before measuring moisture regain to enable the fabric to attain conditions for the normal use of moisture meter. Take at least 4 reading for each sample cut (*see* **D-2**) and one reading for each sample bag (*see* **E-2**).

NOTES

1 The average of all the readings is the moisture regain percent of the bales.

2 Indian Jute Industries Research Association (IJ1RA) Moisture Meter (mention of the name of the specific instrument is not intended to promote or give preference to the use of that instrument over others not mentioned.) may be used for the purpose. The meter works on the principle of measuring the electrical resistance which changes with moisture content in the material. The specimen (jute product) is placed under the electrode gun having two poles of specially designed springloaded electrodes. The small amount of current passing through the electrodes is amplified and recorded on the meter calibrated against the actual moisture regain, based on oven-dry method of the material. A separate chart, calibrating the readings of the actual moisture regain based on oven-dry method of the material may also be used. The instrument shall be operated according to the manufacturer instructions.

3 In case of disputes, the moisture regain shall be tested by the oven-dry method and the readings of the same shall be accepted.

8.3 Length and Width

8.3.1 *Fabric*

The length and width of the fabric shall be determined correct to 0.5 cm in accordance with IS 1954.

8.3.2 *Bag*

Lay each bag flat on a table, remove all the creases and wrinkles and measure the outside length and outside width about the centre of the bag to the nearest 0.5 cm.

8.4 Ends and Picks

8.4.1 *Fabric*

Determine ends and picks per dm of each fabric cut at one and two places respectively with a suitable measuring gauge, in accordance with IS 1963. Calculate the average ends and picks per dm of the fabric cuts under test. In case of disputes, the sampling as given in IS 1963 shall be followed.

8.5 Mass

8.5.1 *Fabric*

The mass of fabric cut shall be determined up to nearest 0.1 kg as per Method B of IS 2387. In case of dispute, the accuracy of measurement as given in IS 1964 shall be followed.

8.5.2 *Bag*

Weigh each bag to the nearest 5 g after test for bale mass and moisture regain. Correct the observed mass of each bag for the observed moisture regain (*see* **8.2**) as follows:

$$\text{Corrected mass} = \frac{\text{Observed mass} \times (100 + \text{Contract moisture regain, percent})}{100 + \text{Observed moisture regain, percent}}$$

8.6 Breaking Strength (Warpway and Weftway)

8.6.1 *Fabrics*

Test from each fabric cut, *5* warpway and 5 weftway test specimens for breaking strength with 100 mm wide ravelled stripes and 200 mm between grips according to IS 1969.

8.6.2 *Bag*

Test 2 specimens each in warpway and weftway from each sample bag for breaking strength according to IS 1969.

8.7 Breaking Strength of Seam

Test 2 specimens each in warp and weft seam from each sample bag for seam breaking strength according to IS 9030.

8.8 Oil Content

From each cut/bag take two representative strips, together weighing approximately 20 g and determine the oil content on dry deoiled material basis in accordance with IS 2969.

8.9 Number of Joined Bags per Bundle and Bags per Bale

Count the number of bundles in each bale and the number of bags and joined bags in each bundle. From the above determine the total number of bags in each bale under test.

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
1954 : 1990	Determination of length and width of fabrics — Methods (*second revision*)
1963 : 1981	Methods for determination of threads per unit length in woven fabrics (*second revision*)
1964 : 2001	Textiles — Methods for determination of mass per unit length and mass per unit area of fabrics (*second revision*)
1969 : 1985	Methods for determination of breaking load and elongation of woven textile fabrics (*second revision*)
2387 : 1969	Methods for determination of mass of jute fabrics (*first revision*)
2873 : 1991	Textiles — Packaging of jute products in bales — Specification (*second revision*)
2969 : 1974	Method for determination of oil content of jute yarn and fabrics (*first revision*)
5476 : 1986	Glossary of terms relating to jute (*first revision*)
9030 : 1979	Method for determination of seam strength of jute fabrics including their laminates

ANNEX B

(*Clause* 4.2)

CLASSIFICATION OF DEFECTS FOR FABRIC

B-1 The detailed classification of defects for fabric is given in Table 1.

Table 1 Classification of Defects for Fabric

Sl No.	Type of Defect	Description		Major	Minor
(1)	(2)	(3)		(4)	(5)
i)	GAW	Portion over the whole width of the fabric completely unwoven with weft	> 1.5 cm	x	—
			0.5-1.5 cm	—	X
ii)	Multiple broken/missing warp (end)	Two or more contiguous, regardless of length		x	—
iii)	Multiple broken weft (pick)	Two or more contiguous, regardless of length		x	—
		One pick, full width		—	X
iv)	Cut, hole, tear or patch	Two or more warp or filling threads ruptured at adjoining points		x	—
v)	Float	A place in the fabric where warp and weft yarns escape the required interlacement	> 2 cm^2	x	—
			0.5-2 cm^2	—	X

NOTES

1 x — major defects.
X — minor defects.

2 Two minor defects shall be counted as one major defect.

ANNEX C

(*Clause* 4.2)

CLASSIFICATION OF DEFECTS FOR BAG

C-1 The detailed classification of defects for bag is given in Table 2.

Table 2 Classification of Defects for Bag

(*Clause* C-1)

Sl No.	**Type of Defect**	**Description**		**Major**	**Minor**
(1)	(2)	(3)		(4)	(5)
i)	GAW	Portion over the whole width of the fabric completely unwoven with weft	>1.5 cm	x	—
			0.5-1.5 cm	—	X
ii)	Multiple broken/missing warp (End)	Two or more contiguous, regardless of length		x	—
iii)	Multiple broken weft (Pick)	Two or more contiguous, regardless of length		x	—
		One pick, full width		—	X
iv)	Cut, hole, tear or patch	Two or more warp or filling threads ruptured at adjoining points		x	—
v)	Float	A place in the fabric where warp and weft yarns escape the required interlacement	> 2 cm^2	x	—
			0.5-2 cm^2	—	X
vi)	Gap stitching	Stitches missing	> 1.5 cm	x	—
			0.5-1.5 cm		X
vii)	Corner gap	Corner of the bag not properly stitched resulting in formation of hole	> 1.5 cm	x	—
			0.5-1.5 cm	—	X
viii)	Mildew	Staining of fabric due to fungal or bacterial growth visible to naked eye		x	—

NOTES

1 x — major defects.
X — minor defects.

2 Two minor defects shall be counted as one major defect.

ANNEX D

(*Clause* 7)

SAMPLING AND CRITERIA FOR CONFORMITY OF FABRIC

D-1 LOT

All bales of jute fabrics of one type and width produced under similar conditions of production and delivered to a buyer against one dispatch note shall constitute a lot.

D-2 SAMPLE SIZE AND CRITERIA FOR CONFORMITY

For assessing the conformity of lot to the requirements of this standard, bales shall he first selected from each lot at random in accordance with the col 2 and 3 of Table 3. All the bales so selected in the sample shall be tested for 'Gross mass of bales', 'Tare mass of bailing hoops and other packing materials' and 'Number of medium cuts and short pieces and length of fabric per bale'.

The lot shall be considered as conforming to the requirements of this standard, if all the following conditions are satisfied:

a) Total corrected net mass of all the bales in the sample is not less than the total contract mass of all the bales.

b) Number of medium cuts and short pieces and length of fabric per bale in each bale selected as per **D-2** under test meet the relevant requirements.

D-3 SAMPLE SIZE FOR CUTS

For freedom from defects, width, ends/dm, picks/dm and moisture regain, 4 cuts shall be selected at random from each of the bales selected as per **D-2**. The total number of cuts to be tested from each lot for these requirements is given in col 5 of Table 3.

D-4 CRITERIA FOR CONFORMITY

D-4.1 Criteria for Conformity for Freedom from Defects

Each cut selected in the sample shall be tested for freedom from defects. A cut shall be termed as defective, if it contains two or more major defects (*see* Annex B). A lot shall be considered conforming to this requirement, if the number of defectives is less than or equal to the acceptance number given in col 6 of Table 3. Acceptance numbers given in Table 3 are on the basis of an AQL of 2.5 percent.

D-4.2 Criteria for Conformity for Width, Ends/dm, Picks/dm and Moisture Regain

The lot which meets requirements of **D-4.1** shall be tested for width, ends/dm, picks/dm and moisture regain as per the plan. A cut shall be termed as defective, if it fails to meet any one or more of these requirements. The lot shall be considered as conforming to the requirements of width, ends/dm, picks/dm and moisture regain, if the total number of defective cuts found in the sample is less than or equal to the corresponding acceptance number given in col 6 of Table 3.

D-4.3 Criteria for Conformity for Mass of Fabric

The lot, which meets the above requirements, shall then be tested for mass of fabric. The lot shall be declared as conforming to this requirement, if

a) the average value of mass of fabric (g/m^2) as obtained for sampled cuts is not less than the nominal value specified; and

b) not more than 10 percent of the individual values of mass of fabric is below the lower specified value.

D-5 SAMPLE SIZE AND CRITERIA FOR CONFORMITY FOR BREAKING STRENGTH REQUIREMENT

The lot, which meets the above requirements, shall then be tested for breaking strength requirements. For this purpose, one cut shall be selected at random from each bale selected in the sample. Suitable test specimens shall be taken from these cuts and tested for warpway, and weftway breaking strength. The lot shall be declared as conforming to these requirements, if

a) the average values of warpway and weftway breaking strengths respectively, as obtained for all test specimens are not less than the corresponding values specified; and

b) none of the individual value is less than 20 percent below the specified value.

D-6 SAMPLE SIZE AND CRITERIA FOR CONFORMITY FOR OIL CONTENT

The lot, which meets the above requirements, shall then be tested for oil content. For this purpose two cuts shall be selected out of two different bales selected as per **D-2**. The lot shall be declared as conforming to this requirement, if both the cuts meet the requirement of oil content.

D-7 The lot shall be considered as conforming to the requirements of this standard, if **D-2** and **D-4** to **D-6** are satisfied.

Table 3 Sample Size and Acceptance Numbers

(*Clauses* D-2, D-3, D-4.1 *and* D-4.2)

Sl No.	**No. of Bales in the Lot**	**No. of Bales in the Sample**	**For Width, Ends/dm, Picks/dm, Moisture Regain and Mass of Fabric**		
			No. of Cuts from Each Bale	Total Number of Cuts in Sample	Acceptance Number
(1)	(2)	(3)	(4)	(5)	(6)
i)	Up to 25	5	4	20	1
ii)	26-90	8	4	32	2
iii)	91-300	13	4	52	3
iv)	301-500	20	4	80	5

NOTE — If the number of bales in a consignment exceeds 500, the same shall be split into number of lots each comprising maximum of 500 bales.

ANNEX E

(*Clause* 7)

SAMPLING AND CRITERIA FOR CONFORMITY OF BAG

E-1 LOT

All bales of jute bags of same size produced under similar conditions of production and delivered to a buyer against one dispatch note shall constitute a lot.

E-2 SAMPLE SIZE AND CRITERIA FOR CONFORMITY

For assessing the conformity of lot to the requirements of this standard, bales shall be first selected from each lot at random in accordance with the col 2 and col 3 of Table 4. All the bales so selected in the sample shall be tested for 'Gross mass of bales', 'Tare mass of bailing hoops and other packing materials' and 'Number of bundles per bale'. Two bundles of bags selected at random from each bale selected in the sample shall be tested for total number of bags per bundle.

The lot shall be considered as conforming to the requirements of this standard, if all the following conditions are satisfied:

a) Total corrected net mass of all the bales in the sample is not less than the total contract mass of all the bales.

b) Total numbers of bags in each bale selected as per **E-2** under test meet the relevant requirement.

E-3 SAMPLE SIZE FOR BAGS

For freedom from defects, length, width, ends/dm, picks/dm, number of stitch/dm, mass per bag, and moisture regain, 16 bags shall be selected at random from each of the bales selected as per **E-2**. The total number of bags to be tested from each lot for these requirements is given in col 5 of Table 4.

E-4 CRITERIA FOR CONFORMITY

E-4.1 Criteria for Conformity for Freedom from Defects

Each bag selected in the sample shall be tested for freedom from defects. A bag shall he termed as defective if it contains two or more major defects (*see* Annex C). A lot shall he considered conforming to this requirement, if the number of defectives is less than or equal to the acceptance number given in col 6 of Table 4. Acceptance numbers given in Table 4 are on the basis of an AQL of 2.5 percent.

E-4.2 Criteria for Conformity for Length, Width, Ends/dm, Picks/dm, Number of Stitches/dm and Moisture Regain

The lot which meets requirements of **E-4.1** shall be tested for length, width, ends/dm, picks/dm, number of stitches/dm and moisture regain as per the plan. A bag shall be termed as defective, if it fails to meet any one or more of these requirements. The lot shall be considered as conforming to the requirements of length, width, ends/dm, picks/dm, stitches/dm and moisture regain, if the total number of defectives found in the sample is less than or equal to the corresponding acceptance number given in col 6 of Table 4.

Table 4 Sample Size and Acceptance Numbers

(*Clauses* E-2, E-3, E-4.1 *and* E-4.2)

Sl No.	No. of Bales in the Lot	No. of Bales in the Sample	For Length, Width, Number of Stitches/dm, Ends/dm, Picks/dm, Moisture Regain		
			No. of Bags from Each Bale	Total Number of Bags in Sample	Acceptance Number
(1)	(2)	(3)	(4)	(5)	(6)
i)	Up to 25	5	16	80	5
ii)	26-90	8	16	128	7
iii)	91-300	13	16	208	10
iv)	301-500	20	16	320	14

NOTES

1 If the number of bales in a consignment exceeds 500, the same shall be split into number of lots each comprising maximum of 500 bales.

2 Joined bag shall also be drawn during sampling of bags for visual inspection and breaking strength test.

3 Number of joined bags per bundle of 25 bags shall be 1.

E-4.3 Criteria for Conformity for Mass per Bag

The lot, which meets the above requirements, shall then be tested for mass of bag. The lot shall be declared as conforming to this requirement, if

a) the average value of mass per bag, as obtained for sampled bags is not less than the nominal value specified; and
b) not more than 10 percent of the individual values of mass of bags is below the lower specified value.

E-5 SAMPLE SIZE AND CRITERIA FOR CONFORMITY FOR BREAKING STRENGTH REQUIREMENT

The lot, which meets the above requirements, shall then be tested for breaking strength requirements. For this purpose, one bag shall be selected at random from each bale selected in the sample. Suitable test specimens shall be taken from these bags and tested for warpway, weftway and seam strength. The lot shall be declared as conforming to these requirements, if

a) the average values of warpway, weftway and seam breaking strengths respectively, as obtained for all test specimens are not less than the corresponding values specified; and
b) none of the individual value is less than 20 percent below the specified value.

E-6 SAMPLE SIZE AND CRITERIA FOR CONFORMITY FOR OIL CONTENT

The lot, which meets the above requirements, shall then be tested for oil content. For this purpose two bags shall be selected out of two different bales selected as per **E-2**. The lot shall be declared as conforming to this requirement if both the bags meet the requirement of oil content.

E-7 The lot shall be considered as conforming to the requirements of this standard, if **E-2** and **E-4** to **E-6** are satisfied.

ANNEX F

(*Foreword*)

COMMITTEE COMPOSITION

Jute and Jute Products Sectional Committee, TXD 03

Organization	*Representative(s)*
Planning Commission, New Delhi	Shri A. K. Khullar (***Chairman***)
AI Champdany Industries Limited, Kolkata	Shri S. C. Mittal Shri A. K. Nandi (*Alternate*)
Directorate General of Supplies & Disposals, Quality Assurance Wing, New Delhi	Shri A. J. Bajaj Shri R. P. Singh (*Alternate*)
Eskaps (India) Private Ltd, Kolkata	Shri S. K. Chatterjee Shri Arbinda Kar (*Alternate*)
Export Inspection Council of India, New Delhi	Shri R. N. Das Shri S. P. Bhattacharya (*Alternate*)
Food Corporation of India, New Delhi	Shri S. S. Grewal Shri I. K. Negi (*Alternate*)
Indian Jute Industries' Research Association, Kolkata	Shri P. K. Choudhury Shri S. K. Chakrabarti (*Alternate*)
Indian Jute Mills Association, Kolkata	Shri S. K. Ghosh Shri H. N. Ghosh (*Alternate*)
Indian Institute of Technology, Kharagpur	Prof B. Adhikari
Indian Sugar Mills Association, New Delhi	Shri S. L. Jain Shri M. N. Rao (*Alternate*)
Industrial Toxicological Research Centre, Lucknow	Dr V. P. Sharma
Institute of Jute Technology, Kolkata	Dr Prabir Ray Shri A. K. Chakarborty (*Alternate*)
Ludlow Jute Mills, Kolkata	Shri D. K. Bubna Shri B. M. Thakkar (*Alternate*)
Ministry of Consumer Affairs, Food & Public Distribution, New Delhi	Shri R. P. Bhagria Shri V. K. Aggarwal (*Alternate*)
National Federation of Cooperative Sugar Co Ltd, New Delhi	Shri Vinay Kumar
National Institute of Research on Jute and Allied Fibre Technology, Kolkata	Director Shri Gautam Bose (*Alternate*)
Office of Jute Commissioner, Kolkata	Shri U. Sen Shri R. K. Roy (*Alternate*)
Punjab State Civil Supplies Corporation Ltd, Chandigarh	Shri Ashok Dadhwal
BIS Directorate General	Shri P. Bhatnagar, Director & Head (TXD) [Representing Director General (*Ex-officio)*]

Member Secretary
Shri J. K. Gupta
Scientist 'C' (TXD), BIS

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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